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Subject Environmental Defense comments on 2-Nitropropane
(CAS# 79-46-9)

(Submitted via Internet 10/3/05 to oppt.ncic@epa.gov, hpv.chemrtk@epa.gov,
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Environmental Defense appreciates this opportunity to submit comments on the robust summary/test plan for **2-Nitropropane (CAS# 79-46-9)**.

The Dow Chemical Company, in response to EPA's High Production Volume (HPV) Chemical Challenge, has submitted robust summaries and a test plan describing available data for 2-nitropropane (CAS # 79-46-9). According to the sponsor, 2-nitropropane is manufactured in a continuous-reaction closed-system process in which propane and nitric acid are reacted to form a number of compounds that are subsequently purified by distillation. Most of the material produced is said to be used on site in the production of other chemicals, and the sponsor proposes that 2-nitropropane be considered a closed-system intermediate.

Our review of the test plan and robust summaries indicates that they are generally well-organized and well-written to clearly present and describe available data addressing the required SIDS elements, as well as additional data that are both interesting and highly relevant. Many of the studies described are somewhat dated, were not conducted under GLP and failed to describe the purity of the material tested; nevertheless, we would agree that taken together they appear to be adequate to address the respective SIDS elements. All of the SIDS elements except acute toxicity to mammals are said by the sponsor to have been adequately addressed.

The data described in this submission indicate that 2-nitropropane has no more than moderate environmental and mammalian toxicity based on SIDS endpoints, should not persist in the environment and, in most instances, should not present an environmental or human health hazard. This conclusion is supported by the results of epidemiological studies of individuals occupationally exposed to 2-nitropropane.

However, other background information studies described in this submission raise some concern. Most prevalent among these concerns are the facts that 2-nitropropane has been judged a likely animal carcinogen by both the NTP and IARC, and that, according to Appendix I, "Approximately 2 million pounds is shipped by bulk (rail and then marine vessel) to the ANGUS Chemical site in Europe for use as a chemical intermediate." When these characteristics are combined with the additional facts that, according to Appendix I, 2-nitropropane has a tendency to "exhibit explosive decomposition" upon extreme shock, and that the chemical is shipped in drums by rail, one can easily imagine a human and environmental catastrophe in the event of an accident. Thus, it appears that 2-nitropropane possesses real potential for release into the environment and should not be considered a "type a' site-limited, closed-system industrial intermediate" as proposed by the sponsor.

Other comments:

1. The test plan proposes additional studies of acute mammalian toxicity. Given the extensive data already available for 2-nitropropane, including acute toxicity following inhalation exposure, as well as repeated dose and chronic toxicity studies, we do not consider this necessary.
2. The robust summaries state that "the carcinogenic effect of 2-nitropropane on the liver is discussed further in section 5.4.2.3", but there is no such section in the robust summaries.

In summary, this submission appears relatively complete. However, we do not agree that 2-nitropropane should be considered a closed-system industrial intermediate or that additional studies of acute mammalian toxicity are necessary.

Thank you for this opportunity to comment.

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